

Figure 1 (SEQ ID NO 1): Amino acid sequence of the *A. chrysogenum* protein encoded by a nucleic acid molecule of the invention (depicted from the N terminus to the C terminus)

MASPIASAAL KARIRRP SML KKLCKPQDLM HHFPNGSYIG WSGFTGVGYP KKMP TYMADH
VEQNG LQGKL KYS LFVGASS GAETENRWAS LDMIDRRTPH QVGKAISKGI NEGKIHF FDK
HLSMF PVDLV YGYYTKDRPH NKLDVVVVEA TDIKEDGSIV PGASVGATPE LIQMADKIII
EVNTSLPSFE GLHDITMTDL PPLRKPYLVM GVEDRIGRTS IPIDPEKVVG ILES DYQDAT
APNAE ADESA NKIAGHLIEF FEHEVAHGRL PNSLLPLQSG IG NVANAIIG GLDNSNFRNL
KVVTEVIQDT FLDLFDSGRL DFATATSIRF SPDGFRRFYD NWEAYYGKLL LRSQQVSN SP
EIIRRLGVIA MNTPVEVDIY AHANSTCVMG SRMLNGLGGS ADFLRSSKYS IMHTPSTRPS
KTDPHGVSCI VPMCTHIDQT EHDLDVIVTE QGLADV RGLS PRERARVIK KCAHPVYQPI
LTHYFEKAES DCLRKGWGHE PHLLFNSFDL HKALVEHGSM QKVGQW

Figure 2 (SEQ ID NO 2): Genomic DNA sequence of the coding region of a genomic clone of the new *A. chrysogenum* gene from the translation start codon (ATG) to the last coding codon (TGG). The introns are depicted underlined. A single strand in 5'-to-3' orientation is shown.

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ATGGCATCAC CAATAGCCTC TGCCGCCCTC AAGGCGCGCA TTCGCCGCCC CTCGATGCTC
AAGAAGCTGT GCAAGCCCCA GGATTTGATG CATCACTTCC CCAATGGCTC GTACATTGGC
TGGTCCGGCT TCACCGGCGT CGGCTACCCG AAGTGAGTTC CACCGTCATC CCGCTCCACA
GTAGGCGCAG CCGGCCCGCT GACAGTCCCC GACAGGAAAA TGCCGACCTA CATGGCCGAT
CACGTCGAGC AGAACGGCCT TCAGGGCAAG CTGAAGTACT CGCTATTTCG GGGCGCATCG
TCGGGTGCTG AGACAGAGAA TCGCTGGGCG TCGCTCGACA TGATTGATAG GAGGACCCCG
CATCAGGTCG GCAAGGCCAT CTCCAAGGGC ATCAATGAGG GCAAGATCCA CTTCTTCGAC
AAGCATCTCT CCATGTTCCC CGTGGACCTT GTATACGTAC GTCAACGATG ATCCCTTGGA
ATGTGCATGT ACTACGAGTA CCTGGCGCTA ACATCCGGTC AGGGCTACTA CACAAAGGAT
AGACCCACA ACAAGCTGGA CGTGGTGGTG GTGGAGGCCA CCGACATCAA AGAGGACGGA
AGCATTGTAC CCGGAGCTTC AGTCGGCGCG ACCCCCAGAG TCATCCAGAT GGCCGATAAG
GTGAGCAATT TCGATTTCTA GCGGAGGGCG CAGCAGGACC TGACATCTCC CTGTGCAGAT
CATTATCGAG GTCAACACCT CACTGCCTTC ATTTCGAGGGT CTCCACGACA TCACCATGAC
CGACCTGCCC CCGCTACGGA AGCCCTATCT CGTCATGGGT GTCGAGGACC GCATCGGCAG
GACCTCTATC CCTATCGACC CCGAGAAGGT TGTAGGCATC CTCGAATCCG ACTACCAGGA
CGCCACTGCC CCCAACGCCG AGGCCGACGA GAGTGCGAAC AAGATTGCTG GCCACTTGAT
TGAGTTCTTC GAGCACGAGG TCGCCACGG CCGTCTCCCG AACTCCCTCC TTCCCCTCCA
GTCCGGCATC GGCAACGTCG CCAACGCCAT CATCGGTGGC CTCGACAACT CCAACTTCCG
CAACCTCAAG GTCTGGACTG AGGTATATCCA GGACACCTTC CTCGACCTCT TCGACTCGGG
CCGCCTCGAC TTTGCCACGG CCACCTCTAT CCGCTTCTCC CCCGACGGTT TCCGCCGGTT
CTACGACAAC TGGGAGGCCT ACTACGGCAA GCTCCTCCTC CGCAGCCAGC AGGTGTCCAA
CTCGCCCAGG ATCATCCGCC GCCTTGGTGT CATTGCCATG AACACCCCCG TCGAGGTCGA
CATCTACGCC CACGCCAACT CCACCTGCGT CATGGGCTCG CGCATGCTCA ACGGCCTGGG
CGGCTCCGCC GACTTCCTGC GCTCCTCCAA GTACTCTATC ATGCACACCC CGTCCACCCG
CCCCTCCAAG ACCGACCCGC ACGGCGTCTC GTGCATCGTT CCCATGTGCA CCCACATCGA
CCAGACTGAG CACGACCTCG ACGTCATCGT CACCGAGCAG GGCTTGCCG ACGTGC GCGG
CCTGAGCCCC AGGGAGAGGG CCCGCGTCAT CATCAAGAAG TGCGCCACC CGGTCTACCA
GCCCATCCTG ACCCACTACT TTGAGAAGGC CGAGAGCGAC TGCCTACGCA AGGGCTGGGG
CCACGAGCCC CATCTGCTCT TCAACTCGTT TGACCTGCAC AAGGCCCTCG TGGAGCACGG
AAGCATGCAG AAGGTCGGGC AGTGG

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Figure 3 (SEQ ID NO 3): cDNA sequence of the coding region of the new *A. chrysogenum* gene from the translation start codon (ATG) to the last coding codon (TGG). A single strand in 5'-to-3' orientation is shown.

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ATGGCATCAC CAATAGCCTC TGCCGCCCTC AAGGCGCGCA TTCGCCGCCC CTCGATGCTC
AAGAAGCTGT GCAAGCCCCA GGATTTGATG CATCACTTCC CCAATGGCTC GTACATTGGC
TGGTCCGGCT TCACCGGCGT CGGCTACCCG AAGAAAATGC CGACCTACAT GGCCGATCAC
GTCGAGCAGA ACGGCCTTCA GGGCAAGCTG AAGTACTCGC TATTCGTGGG CGCATCGTCG
GGTGCTGAGA CAGAGAATCG CTGGGCGTCG CTCGACATGA TTGATAGGAG GACCCCGCAT
CAGGTCGGCA AGGCCATCTC CAAGGGCATC AATGAGGGCA AGATCCACTT CTTGACAAG
CATCTCTCCA TGTTCCCCGT GGACCTTGTA TACGGCTACT ACACAAAGGA TAGACCCAC
AACAAAGCTGG ACGTGGTGGT GGTGGAGGCC ACCGACATCA AAGAGGACGG AAGCATTGTA
CCCGGAGCTT CAGTCGGCGC GACCCCGAG CTCATCCAGA TGGCCGATAA GATCATTATC
GAGGTCAACA CCTCACTGCC TTCATTGAG GGTCTCCACG ACATCACCAT GACCGACCTG
CCCCCGCTAC GGAAGCCCTA TCTCGTCATG GGTGTCGAGG ACCGCATCGG CAGGACCTCT
ATCCCTATCG ACCCCGAGAA GGTGTAGGC ATCCTCGAAT CCGACTACCA GGACGCCACT
GCCCCAACG CCGAGGCCGA CGAGAGTGCG AACAAGATTG CTGGCCACTT GATTGAGTTC
TTCGAGCAGC AGGTCGCCCC CGGCCGTCTC CCGAACTCCC TCCTTCCCCT CCAGTCCGGC
ATCGGCAACG TCGCCAACGC CATCATCGGT GGCCTCGACA ACTCCAACCT CCGCAACCTC
AAGGTCTGGA CTGAGGTTAT CCAGGACACC TTCCTCGACC TCTTCGACTC GGGCCGCCTC
GACTTTGCCA CGGCCACCTC TATCCGCTTC TCCCCGACG GTTTCGCCCG GTTCTACGAC
AACTGGGAGG CCTACTACGG CAAGCTCCTC CTCCGAGCC AGCAGGTGTC CAACTCGCCC
GAGATCATCC GCCGCCTTGG TGTCATTGCC ATGAACACCC CCGTCGAGGT CGACATCTAC
GCCCACGCCA ACTCCACCTG CGTCATGGGC TCGCGCATGC TCAACGGCCT GGGCGGCTCC
GCCGACTTCC TGCGCTCCTC CAAGTACTCT ATCATGCACA CCCCCTCCAC CCGCCCCCTC
AAGACCGACC CGCACGGCGT CTCGTGCATC GTTCCCATGT GCACCCACAT CGACCAGACT
GAGCACGACC TCGACGTCAT CGTCACCGAG CAGGGCCTGG CCGACGTGCG CGGCCGTGAGC
CCCAGGGAGA GGGCCCGCGT CATCATCAAG AAGTGCGCC ACCCGGTCTA CCAGCCCATC
CTGACCCACT ACTTTGAGAA GGCCGAGAGC GACTGCCTAC GCAAGGGCTG GGGCCACGAG
CCCCATCTGC TCTTCAACTC GTTTGACCTG CACAAGGCCC TCGTGGAGCA CGGAAGCATG
CAGAAGGTCG GGCAGTGG
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Figure 4 (SEQ ID NO 4): Genomic DNA sequence of a BamHI/EcoRI fragment of a genomic clone of the new *A. chrysogenum* gene (a single strand in 5'-to-3' orientation is shown). The translation start codon (ATG) and the translation stop codon (TAA) of the coding region are depicted underlined and in bold type; the introns are depicted underlined.

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GAAG ATCGCATTTG GCGAGTGGG CTAATAATGC CTGCTGCCTG CCTGTGGACG
GTAAATGAAT TAGGTGGAAT GTGTCGCAA TTAGAGGGGAA TGGCCCCCTT ATCATATAAA
GTGCCAATGC GATACTATGG CGTGGCGTGG GGTCCGCTCG GTGTCCGGCC GGTCGAACGG
AGGTCCCAGC TATCAATAGG CGGTAGGCCG GCATTGAATC GGTTCACACG TATTCCAGAC
ACCCAAGGAA GGCCCGCCAC CCCCAGCTCC GGCCTGGGGA TAGCGCCGAG TGGAGCACTC
ACGGGGGCCG TGTTTGACTC GAAGACGCGT CGTGATTGGC CAGAACTTCA TCCCCCTCTG
CCAAGTATTG GTTCACGGGA TTCGGCGACG TCAACGACCC CACCGGCCCG GATTACATAA
GGTGCACGTC AGCTACTACG TAGTACTCGT ACTTGGGAAG GAGGGACCCCT TGGGGTCGGA
GGTTTTAAAG GCAATGGCTT CTTGCTGGT CCACCCAACC TGACTCTCAC TCTCCCTTTT
ACCTCGCTCC TCTGATTATT CCCTCGTCTG CGTCTGGATT TCATCTCTTT CCCCTCCCGG
CCCCTTTGGA TCTCTGCTCT CCCCTCCTCT CTCCCCCGCA TTGGTGTGTA AAACCACTGT
CCCGCGGCCT CGCGACGAGT GACGTACTGC AAGCCGAAAC CTCACAATCC CTTCTCACA
ATGGCATCAC CAATAGCCTC TGCCGCCCTC AAGGCGCGCA TTCGCCGCC CTCGATGCTC
AAGAAGCTGT GCAAGCCCCA GGATTTGATG CATCACTTCC CCAATGGCTC GTACATTGGC
TGGTCCGGCT TCACCGGCGT CGGCTACCCG AAGTGAGTTC CACCGTCATC CCGCTCCACA
GTAGGCGCAG CCGGCCCGCT GACAGTCCCC GACAGGAAAA TGCCGACCTA CATGGCCGAT
CACGTCGAGC AGAACGGCCT TCAGGGCAAG CTGAAGTACT CGCTATTTCG GGGCGCATCG
TCGGGTGCTG AGACAGAGAA TCGCTGGGCG TCGCTCGACA TGATTGATAG GAGGACCCCG
CATCAGGTCG GCAAGGCCAT CTCCAAGGGC ATCAATGAGG GCAAGATCCA CTTCTTCGAC
AAGCATCTCT CCATGTTCCC CGTGGACCTT GTATACGTAC GTCAACGATG ATCCCTTGGA
ATGTGCATGT ACTACGAGTA CCTGGCGCTA ACATCCGGTC AGGGCTACTA CACAAAGGAT
AGACCCACA ACAAGCTGGA CGTGGTGGTG GTGGAGGCCA CCGACATCAA AGAGGACGGA
AGCATTGTAC CCGGAGCTTC AGTCGGCGCG ACCCCCGAGC TCATCCAGAT GGCCGATAAG
GTGAGCAATT TCGATTTCTA GCGGAGGGCG CAGCAGGACC TGACATCTCC CTGTGCAGAT
CATTATCGAG GTCAACACCT CACTGCCTTC ATTTCGAGGGT CTCCACGACA TCACCATGAC
CGACCTGCCC CCGCTACGGA AGCCCTATCT CGTCATGGGT GTCGAGGACC GCATCGGCAG
GACCTCTATC CCTATCGACC CCGAGAAGGT TGTAGGCATC CTCGAATCCG ACTACCAGGA
CGCCACTGCC CCAACGCCG AGGCCGACGA GAGTGCGAAC AAGATTGCTG GCCACTTGAT
TGAGTTCTTC GAGCACGAGG TCGCCACGG CCGTCTCCCG AACTCCCTCC TTCCCCTCCA
GTCCGGCATC GGCAACGTCG CCAACGCCAT CATCGGTGGC CTCGACAAC CCAACTTCCG
CAACCTCAAG GTCTGGACTG AGGTTATCCA GGACACCTTC CTCGACCTCT TCGACTCGGG
CCGCCTCGAC TTTGCCACGG CCACCTCTAT CCGCTTCTCC CCCGACGGTT TCCGCCGGTT
CTACGACAAC TGGGAGGCCT ACTACGGCAA GCTCCTCCTC CGCAGCCAGC AGGTGTCCAA
CTCGCCCGAG ATCATCCGCC GCCTTGGTGT CATTGCCATG AACACCCCCG TCGAGGTCGA

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CATCTACGCC CACGCCAACT CCACCTGCGT CATGGGCTCG CGCATGCTCA ACGGCCTGGG
CGGCTCCGCC GACTTCCTGC GCTCCTCCAA GTACTCTATC ATGCACACCC CGTCCACCCG
CCCCTCCAAG ACCGACCCGC ACGGCGTCTC GTGCATCGTT CCCATGTGCA CCCACATCGA
CCAGACTGAG CACGACCTCG ACGTCATCGT CACCGAGCAG GGCCTGGCCG ACGTGCGCGG
CCTGAGCCCC AGGGAGAGGG CCCGCGTCAT CATCAAGAAG TGCGCCACC CGGTCTACCA
GCCCATCCTG ACCCACTACT TTGAGAAGGC CGAGAGCGAC TGCCTACGCA AGGGCTGGGG
CCACGAGCCC CATCTGCTCT TCAACTCGTT TGACCTGCAC AAGGCCCTCG TGGAGCACGG
AAGCATGCAG AAGGTCGGGC AGTGGTAAGA TTGGCGAGAC GGGAGAGGCG TTGTTGTAGG
AGTTGGA ACT AGAATCAGAT ATACAGCCTT TCATATATGT AGATAATGGA GCCATT

Figure 5 (SEQ ID NO 5): A. chrysogenum genomic DNA sequence of an approx. 16 kb region marked by SnaBI and BfrI and containing the biosynthesis genes pcbC (position 1366 to position 350, inverse arrangement) and pcbAB (position 2598 to position 13517). A single strand in 5'-to-3' orientation is shown. The particular translation start codons (ATG, GTG) and the particular translation stop codons (TAA, TGA) of the respective coding regions are depicted underlined and in bold type. The said cleavage sites are depicted underlined.

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1      TACGTACATA CGTCGCGGGG GGTAGACAAT GGTGTGGTGT ACGTGTACAA CTACAGTCAG
61     ACATGGACGC AGGAAACGCA TCATTGATAC ATGCACACGG GGCAGCAAAT TTAGCCTGTT
121    TCACTACATG TACATAGAGG GTACACTCCA GAGCATACTG ATGGGAGAAA AAGGGTTCTGA
181    TTGCTGGTGG TTTAACATAG CCGGCAAGGG GAAAAAAAAA AGGGGGCGGA GAAGGACTGA
241    TTCTTCCTGG CAGACACTCG ACCCTTCCGG CCCCTTGAAC TGCTTTTACT CCCGCATTCC
301    TCCGCACGCC CGCCCACAGC GGCAGATCAG CCGAACCTGA TCGACCGATT TAGGTCTGAC
361    CATTCTTGTT GATCAAGCCC CGCAGTCCCC CCTGCAGATA CTCTCCGTAG GAGATGGCCG
421    GCTTGTCTTT GGCGGCATCC TTGGCCCCAT CCTTGGCGGT CGCGGGGTCC CACGGCTGGA
481    TGGTGTCTTC CCAGCCCAGG TTGACGAAGA AGGGCAGTGA CTGGCGCTCC TCGTTGACCC
541    ATTTGACGCG GTGGATCGGG GCCGGGTAGT AGTCGTCTGGT GATATGGGCC ATGTAGCTGC
601    CGCAGTTGAT GAGGAAGCCC GTGTCGTCAG CCTGGATGTC CTGCCAGCCC TCGGGGGTCT
661    TGACCTGCAG ATTCTGCACG TCGGACTGGT ACAACACCGT GATGAGGGAC ACGTCTCTGT
721    GCCACTCGAA GCTGAGCTTG GTGCCGTCTG CGGCCGTCTT GATGGCCGGC TCCGGGTACG
781    GGTGAGGTA CGGGTAACGG ATGAGCACGA CCGACGAGAG CGTCGTGTCA CGGCGGGAGT
841    GGCGGGTGAA GAAGTCCTCG TCGCGACCTA GGGCGAGAGC GTAGCCGCGC AGCACCGCGG
901    AGGAGAGGCC GAAGACGTCC CAGTAGTACT TCTCGGCGAA GGCCCGGAAC CCCGGGTGCT
961    TCGCCTCGTC CGGCCAGACG TTGACCTCGT GCATAGGGGT GGGCTCCTTG ATTCGCGGGT
1021   GGTCTGGGCT GAAGGAGGGG TTCAGGTAGC AGAACGATTC GACCGCCTTC TTGCCCGGGA
1081   TCGGCAGGTA GTAGCCCACC CGGATCTGGG ACTCGTGCTC CTGTGTGTAG GCCCGGATGG
1141   CGAGCTGCCA CTTCTCCTCG TCCGTGATGC TCATGTGGAA TTTGTTCGTC TCGCGCGAGA
1201   GCCACGGCAG GTCGACACCG TGGTTCACCG CGTAAAAGAA GCCTGTGTCTG CGCGATGCGG
1261   CGTCGATGGC GCGAGCTACC TCGAGCTTCT TCTCCTTGTC ATCGCCGAAT AGGGGCGAGA
1321   CATCGATTCT GGGGACGTTG GCCACTGGAA CTGGAACGGA ACCCATGGTG ACGGTTTGTC
1381   CTGCCTGGTG TAAGATGTGA AAGACGAGAT ATGCGTGAGT GACGATGGCG GAAGGAGAAG
1441   CCTCGAAAAT CAGAAGAGCG ACCAAAGGGA TATTCAAGTA TTCGCCCCTC TTGAAGCTGT
1501   TTATACGGGC GGCTGGGTGT GTGTATGTGT ACTTGAGTAC CTACCTCGTG TCTCCCGTTG
1561   CTATACGATA TGAGCTTCCC CACGACGCGC CTTTATGGCC TGACCAAGGT CTCGATTATC
1621   CGGCTCCTGC GGGTGACACT GCCGAGGGGG GTTACATACG GTCCAGCAGC GGCGATGGAG
1681   TTTGGTCCCT GAAGACTGCA TGGCGGGGCC AAGCGATGAG GAACGCCGTT ACATGCATGT
1741   GCATGTAGAC GCCGCCACCC ATGAGGCCCG GAACAGTCTA TCGAAGCTCA GGGATTGGCC
1801   CGGCAACTCG ACGCCCCGTC GAGCGGCTCA CCGGTAGTCG ACGGCGTCCG TCGGAATCTC
1861   GCGCTGCTGC GGGCCACCAC GGCGATGGGC CGTACACACT GCTACTACGG TGTACAATGT
1921   ATCATGTACC CGATCGACGA GGAACTCGGG GTAGAGGTAC CCCGTACAAT CCAGTTTCTC

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1981 AACCCAATGG AACACACAT ACGGGGTGGC TTTGGTTCAC GTTGCACTTT AAACTCGCAG
 2041 ACGAGGGACC GACCTGCAGC GTGGCCCACT TCTGAAGCCT GCCCAGCTTT CTGCAAGACG
 2101 CGGGCCATCG CGCTTGGCCG AGGAGAGAAA GGGTATCCAT GGCGACAAAG GCGGTCCTGG
 2161 TGGGTTCGGT GCCGGCTTTG GAGTTCAC TGCTGGGTGG GTGGCCAGCT GGATGCATGC
 2221 ATTGGCCTGT ATCAAAGGTC CGGGATTCCC CAGGAGTATA AGACGTTCGT GCTGGGAGAT
 2281 CTAGCGACGT GTTGGGAAAT ATCGGCCGTA GAGTGC AAAA AAGAACTGGC GGAAATATTT
 2341 CTCCTTGGAC TCGGTCACAC TCAGTCAGTA GTGGACTGCC AGTCTATCAT ACACCTTTGA
 2401 TATCAACATG ACTATCCTTA CAGGTGCCGA CGACGCCTCG TCATACCACA GGTATGTCTT
 2461 CACAGCCTCT GGAAAGCGCA GTTGGGAGCT ATCTCTAACA TTACCACATC AGGCGCAATG
 2521 GAAGCTCTGA TATCCCAAAA GGTGCCATCC ACCGCAACGG CTTCGCAGCC GCAGCCCCTG
 2581 ACTGCTGGAT CCGGTCCGTG CTGTTTTCCG TGCACCAGAT GCTCAAGAGG TTCGGAAACG
 2641 GATCTCACAC CGTCGTGGCG TCACTCGTAA CTTTCATCAGA GGGATGCCCT TCAACTTCGG
 2701 CCTGGAGGGC CATCCCCTCC GTCATCCATC ATATAGAGGG CGGAGACAAC AACAACACAG
 2761 TCGCCTCTGC CGTGGAACAG GCGGCGAATC TCCTGAACTC AGAAGGATCG GGACAGGACC
 2821 TTCTGATTCC CATCGGACTC ACTGAGCTCG TCAAGTCGGA GCTGATTGAC CTCCTGGTCA
 2881 TCTTCGACGA CGAGACAAAT AACATACGAC TGCCGCAGGA CTTCCTCACTT ATCCTGCGGA
 2941 TACATCAGCG GCAAGACCAC TGGCAGCTGT CAGTCCGGTA TCCCTCGCCC CTTTTCGACA
 3001 CCATGGTCAT CGACAGCTTT CTGAGCGCAC TTCACAACCT GTTGTCCGCG GTGACAAAAC
 3061 CCTCCCAGCT CGTGCGCGAC ATCGAGCTGC TCCAGAATA CCAGGTCGCT CAGCTGGAGA
 3121 AGTGGAAACAA CACAGACGGC GACTACCCCA CCGAGAAGCG GCTACATCAT CTGTTTCGAGG
 3181 AGGCAGCAGT GCGTCGTCCC CAACACGTTG CCCTCATCTG CGGCGACAAG CGCATCACCT
 3241 ATGAGGAGTT GAATGCTATG GCGAATCGCC TGGCCACCA TCTGGTATCC TCGGGTATCC
 3301 AGACTGAGCA GCTCGTCGGT CTCTTCCTCG ACAAGACCGA GCTCATGATC GCTACTATTC
 3361 TGGGCATCTG GAAATCTGGT GCCGCGCATG TACCTATCGA CCCTGGGTAC CCGGACGAGC
 3421 GTGTCAAGTT CGTCCTGAAT GATACGAAGG CGCAAGTGGT CATTGCTAGT CAGAGGCACG
 3481 TCGATCGACT GCGGGCTGAG GCTGTTGGCG GCCAGCATCT TCGCATCATC GGTCTCGAAT
 3541 CTCTGTTTGA CAACCTTGCT CAACAGACAC AACACTCACC AGAGACGTCTG GGCAATTTGA
 3601 CCCATCTGCC CCTGAACAGC AAACAGCTTG CGTACGTGAC ATACACCTCG GGCACCACGG
 3661 GCTTCCCGAA AGGCATCTAC AAGGAGCACA CAAGCGTCGT TAACAGCATC ACCGATCTGT
 3721 CTGCTCGGTA CGGTGTGGCC GGGGAGGACG ACGAGGTGAT ACTCGTCTTC TCCGCCTACG
 3781 TCTTCGAGCC ATTCGTGCGC CAGATGCTCA TGGCCCTGAC CACGGGCAAC TCTCTCGCCA
 3841 TCATCAGCGA CGAGGACAAG TTCGACCCTG ACACCCTTAT TCCCTTCATC CAAAAACACA
 3901 AAGTCACTTA CATCCACGCC ACCTCGTCAG TGTTCAGGA GTACGACTTC GGGTCCTGCC
 3961 CCTCGTTGAA ACGCATGATT CTGGTGGGAG AGAACTTGAC AGAGCCGCGC TACGAGGCC
 4021 TGAGGCAGCG CTTCAAGTCG CGCATCCTGA ATGAATATGG CTTACCCGAG TCTGCGTTTG
 4081 TGACGGCGCT CAACATATTC GAGCCTACCT CACAGAGGAA GGACATGAGT CTGGGAAGGC
 4141 CGGTGCGCAA CGTCAAGTGC TATATCTTGG ATGCCAACCT CAAGAGAGTC CCCATCGGTG
 4201 TTACAGGGGA GCTGCACATC GGTGGCTTGG GTATATCCCG GGGGTACATG AATAGGGAGG
 4261 AGCTCACAAG GCAGAAGTTC CTCCCGAACC CCTACCAGAC CGATAAGGAG CGCCAACGGG
 4321 GTGTCAACTC AACCATGTAC AAGACAGGAG ATCTGGCCCC CTGGCTACCC AGTGGCGAAG
 4381 TCGAGTATCT CGGCCGTGCC GACTTCCAGA TCAAGCTGCG CGGCATTCTGA ATTGAGCCCC

4441	GCGAGATCGA	GTCCACTCTC	GCCATGTATC	CCGGAATCAG	GGCCAGCATC	GTCGTGTCAA
4501	AGAAGCTTCT	CAGTCAGGGG	CAGGAGACGA	TCCAAGACCA	CCTTGTGGGG	TACTATGTTT
4561	GCGATGAGGG	CCACATCCCC	GAGGGTGACC	TGCTGAGCTT	CCTGGAGAAG	AAGCTACCTC
4621	GGTACATGGT	CCCAGCGCGC	CTTGTCCAAC	TGGCTCAGAT	TCCAACCAAT	ATCAACGGCA
4681	AGGCGGATCT	GCGTGCTCTT	CCTGCCGTCG	AAGTCGCCGT	AGCTCCCACC	CACAAGCAGG
4741	ATGGCGAGCG	AGGAAACCAG	CTGGAGAGCG	ACCTGGCTGC	CATATGGGGC	AACATTTTGA
4801	GTGTTCCCGC	TCAAGACATT	GGGTCTGAAT	CCAACTTCTT	CCGCCTGGGT	GGCCACAGTA
4861	TTGCATGCAT	CCAGCTCATT	GCTCGTGTGC	GACAGCAGCT	AGGCCAGGGG	ATTACCCTCG
4921	AGGAGGTCTT	CCAGACCAAG	ACGTTGCGAG	CTATGGCTGC	CCTCTTGTCG	GAAAAGTACA
4981	CGAAGGCGTC	GAATGGGACG	AACGGAGTGA	CCAACGGCAC	TGCTCACGTC	AACGGCCACG
5041	CAGCGAACGG	CCATGTCAGC	GACAGCTACG	TGGCCAGCAG	TTTGCAGCAA	GGCTTTGTTT
5101	ACCATTCACT	CAAGAACGAA	CTGTCCGAGG	CGTACACCAT	GCAATCCATG	ATCCACTATG
5161	GTGTGCCCCCT	GAAACGGGAT	ATTTACCAAG	CGGCATGGCA	GAGGGTACAG	GGGGAGCACC
5221	CTGCACTGCG	GCTTCGGTTC	ACATGGGAGG	CCGAAGTGAT	GCAGATCGTG	GACCCGAAAT
5281	CTGAACTCGA	CTGGCGTGTT	GTTGACTGGA	CCGATGTTTC	GAGCCGGGAG	AAGCAGCTGG
5341	TTGCGCTGGA	GCAACTCCAA	ACGGAGGACC	TTGCTAAGGT	CTACCATCTC	GATAAGGGGC
5401	CCCTTATGCG	ACTATACCTC	ATCCTGCTTC	CGGACTCAAA	GTACTCCTGT	CTGTTTCAGCT
5461	GCCACCATGC	CATTCTCGAT	GGGTGGAGTC	TGCCCCTGCT	CTTCAACAAT	GTCCACCAGG
5521	CCTACCTCGA	TCTCGTCGAA	GGCACTGCTT	CGCCCCGTCGA	GCAGGACGCT	ACCTACCTAC
5581	TCGGCCAGCA	GTACCTGCAG	AGCCACAGGG	ACGACCATCT	CGACTTCTGG	GCCGAGCAGA
5641	TCGGCAGGAT	CGAAGAGCGC	TGCGACATGA	ATGCGCTGCT	GAATGAGGCC	AGCCGATACA
5701	AGGTGCCCCCT	GGCCGACTAT	GACCAAGTCC	GCGAGCAGAG	GCAGCAGACC	ATCAGTCTGC
5761	CCTGGAACAA	CTCCATGGAC	GCTGGTGTGC	GGGAAGAACT	CTCCAGTCGT	GGCATCACCC
5821	TTCATTCCAT	TCTACAGACG	GTCTGGCACC	TGGTCCTCCA	CTCTTATGGA	GGAGGCACCC
5881	ACACGATCAC	CGGCACCACC	ATCTCCGGCC	GTCACCTGCC	CGTCCCCGGA	ATTGAGCGCT
5941	CTGTTGGTCT	CTTCATCAAC	ACACTCCCTA	TGATCTTTGA	TCACACCGTC	TGCCAGGATA
6001	TGACAGCGCT	CGAGGCCATT	GAGCATGTCC	AAGGCCAAGT	CAACGCCATG	AACTCCCGGG
6061	GCAACGTCGA	GCTCGGACGC	ATGAGCAAGA	ACGACCTCAA	GCACGGGCTC	TTCGACACCC
6121	TCTTCGTCCCT	CGAGAACTAC	CCAAACCTCG	ACACGGAGCA	GCGGGAGAAG	CACGAGGAGA
6181	AGCTCAAGTT	CACCATCAAG	GGTGGCACGG	AGAAGCTCAG	TTACCCGCTG	GCCGTGATTG
6241	CCCAAGAGGA	CGGCGACAGC	GGATGCTCGT	TTACGCTCTG	CTATGCGGGC	GAGCTCTTCA
6301	CGGATGAGTC	CATCCAGGCG	CTCCTGGACA	CTGTCCGGGA	CACCCTGAGT	GATATTCTCG
6361	GGAACATCCA	TGCCCCATATC	CGCAACATGG	AGTACCTCTC	CTCGAACCAG	ACGGCGCAGC
6421	TCGACAAAGTG	GAATGCCACC	GCCTTCGAGT	ACCCCAACAC	CACACTGCAC	GCCATGTTTCG
6481	AGTCCGAGGC	GCAGCAGAAG	CCGGACAAGG	TGGCCGTGGT	GTACGAGGAT	ATCAGGCTGA
6541	CCTACCGCGA	GCTCAACAGC	CGTGCCAATG	CCCTGGCGTT	CTACCTCCTC	TCCCAGGCGG
6601	CTATCCAACC	GAACAAGCTG	GTCGGGCTGA	TCATGGACAA	GAGCGAGCAC	ATGATCACGA
6661	GCATCCTCGC	GGTCTGGAAA	ACGGGTGGAG	CCTACGTCCC	GATCGACCCT	CGATACCCTG
6721	ACCAGCGTAT	CCAGTATATC	CTGGAGGATA	CGGCGGCTCT	CGCAGTCATC	ACGGACAGTC
6781	CTCATATTGA	CCGTCTGCGC	AGCATCACCA	ACAACCGCCT	TCCTGTTATC	CAGTCGGACT
6841	TTGCTCTCCA	ACTCCCGCCC	AGCCAGTTTC	ATCCCGTCTC	AAACTGCAAG	CCAAGCGACC

6901 TCGCCTACAT CATGTACACA TCCGGCACCA CTGGCAACCC CAAGGGTGTC ATGGTGTAGC
6961 ACCACGGTGT AGTGAATCTG TGC GTTTCAC TCTGCCGGCT CTTCCGGCCTT CGGAACACAG
7021 ATGACGAGGT CATCCTCTCG TTCTCGAACT ACGTCTTCGA CCACTTTGTC GAGCAGATGA
7081 CGGATGCCCT TCTCAACGGT CAGACTCTTG TGGTCCCTAA CGACGAGATG CGTGGCGACA
7141 AGGAGAGGCT TTACAGATAC ATCGAGACCA ACCGCGTCAC GTACCTCTCG GGGACACCTT
7201 CCGTCATCTC CATGTACGAG TTCGACCGGT TCCGCGACCA CCTGCGGCGC GTGGATTGCG
7261 TCGGCGAGGC CTTCAGCGAG CCGGTATTCG ACAAGATCCG CGAGACGTTT CCGGGTCTCA
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7381 TCCCGGAGCG CCGCACAGAC AAGAGCATCG GTTGCCAGCT GGACAACAGC ACAGCTACG
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15961 AAATGGACGG AAGGATATCT CCCGCTCTAG TATATAAGGC GTACGAAAAC ACCCGTTGTA
16021 CAACCGCTTA AG

Figure 6 (SEQ ID NO 6): A. chrysogenum genomic DNA sequence of an approx. 5.8 kb region marked by EcoRV and BamHI and containing the biosynthesis genes *cefD1* (position 2372 to position 180, inverse arrangement) and *cefD2* (position 3888 to position 5133). A single strand in 5'-to-3' orientation is shown. The particular translation start codons (ATG) and the particular translation stop codons (TAG) of the respective coding regions are depicted underlined and in bold type. The intron *cefD2* and the said cleavage sites are depicted underlined.

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5461 CACAGCCTTG GGATGCGACC TCCCTTTTCA CCGTCTTCAT CCTCGTTGGG GACTCTCAAC
5521 CATGCTGCTG TCGCACTGAG ATAATACAAG GCGTAATTAC TGCAGCGGTA CGTCGTAATT
5581 GGACTTACTT TTGTACGACA GTTGATGTCC AGCGGCATAA AAAGCCTCAG CCGCCAAGAC
5641 TGGCAGACTT CTGCAGCCCT ATCTTGATAT GATCACCCCA TAGGCCGAGG CCCTGTGCTC
5701 GAATCCCGCA CGAAGCCGGA TTCATGTGTA TTCCCAAGGG GGTGAGGACG GAACTCTTAT
5761 TTCGACCTCC GGGGGGCCGA GTTCTAGTCC GCTAACCTTC ACGGCTACAC CGTCCCTCGC
5821 GTCTCAACTA GCCATATAAG TCCTAGGTAA AGAGGTTAAA GTAGGTAGGA AAGGAACCTG
5881 TGGCTTGGCG GATCC

Figure 7 (SEQ ID NO 7): *A. chrysogenum* genomic DNA sequence of an approx. 4.6 kb region marked by XbaI and SgrAI and containing the biosynthesis genes *cefEF* (position 1118 to position 122, inverse arrangement) and *cefG* (position 2058 to position 3534). A single strand in 5'-to-3' orientation is shown. The particular translation start codons (ATG) and the particular translation stop codons (TAG, TGA) of the respective coding regions are depicted underlined and in bold type. The two introns in *cefG* and the said cleavage sites are depicted underlined.

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1      TCTAGATACC TTGAAACTTG AAACCTCTTGA CACTCATGCT TTGTGTTTTA AAAATTTAGC
61     AATTTATAGG GCAATTTTTC TTCTTAAACT CCCGTAGATT TATTACTCGA TCGGCGGTTT
121    CCTAAGTGGC TATAGGAGCT GCGGTAGAGA CAGGGGCAGC CGCGGGGACA GCCGCCTCCG
181    CTGCCGCCGG CTTATCCCTC CGCATGTTGA CATAGTTCCC GCCAAGCCAC TCCCTGAACG
241    TCGTGCGCTC CGACGGGATG CGGACGTTGA AACCCCACTC CCTCGACTGC TGCACGTTGA
301    AGCTGAAGTC GGGCTTCGGC CGCAGGAAGA AGACGCTCGA CGTGCGGCTG CTGCCGACGC
361    GCTGGTCGCG CCCGGGAGAC TTGACCCGGT GCTTGGGCGC CTTGACCTTG CCGCCCGTGG
421    CCAGGTGACC GACCGCGCCG CAGAAGACGA CCATGGCGCC GGGGAGCGTC GGGAGGTCGA
481    CGAATTCTCC GTCCACCTCG CACTGCAGGC TCACGAAGCC GTTGGCGCAG GCTGTCTGGT
541    GCACGAGCGT GATGGTCGAT AGGTCGTAAG GGGGTCCCAT GCGGAGGGGT TCCTCTTCGG
601    CGACGCGGTC CTCCGGCACT TCGGGGAAGT ACCGTAGGCG GAGGAGGGGA TCGCACTCGA
661    CGAAGTCATC AATGTCTCTC CCGGCGAGCG GGGCGCCAC AGAGTTGAGA ACGGCGCGCG
721    CGACATCCTT GGCTGCGCCG TACATGCGGT CGAAGTAGTC CTGCCAGACG TCCTCGAAGC
781    CCCGGTTCGG GAACAGGTTG CCGCCGATGC CCATGGAGTA GCACGTCGAG TAGTCCGAGT
841    ACTTGCCCGT CTCGGTGACG ACGGCGGTGC TCTCCCACTC GAGGGCAGAG AAGCCGCGGC
901    GGGCGTTACG GTCGGCGAGC GTCACGGCCC TCTTCTCCTC CTCGCTTCGG TTCTTGAAAA
961    AGTCAACGCA CGTCTCACGC GCCGAGGTGT GGTCGTCGTC GACCAGGCCG CTCTCGGTCA
1021   AGTAGAAGAT ACCCTTGGTG GTGACGGCCT CGGCGAGCTC GGTGAGGACC TTGCCGCTCT
1081   TGAGGTGCTC GAGACGAAAG ACGGGGACCT TGGAAGTCAT GTTGATGCTG TGGTTTTGAG
1141   CGATGACTTG AGAGGAGTAG CGTGAGGAA AGTTCTGCAA GAGGAATTTA AGGATTCACA
1201   AGATCCCAGT GAGAACGAAA CGTTGTCAAA GCGGTATATA TATATCTCAA ACCCCACCTC
1261   GTAGCTTACG CCGAGGAACT CCTTTTGA CAACTGCTAC TTAGCCGTAA GTGACGCCCT
1321   GCTTCCCCTC AGCCTTGGCC GCACACGTCA ATGTAGCATT GTAAACCCAC GAGTGTCTTG
1381   TGAAGTTTTG TCAACGAATC ATAAGAAGCC ATCGAGTTCT CTTCTCGTTC TTGGTTTCGA
1441   GGAGAATATG TATCGTGCAT GGTCCCTGAT CGTCGAGACC GCCATGGAAT CGTGCAAGCC
1501   TTAATTCTCC GTACAAGCTT CCCCATTCGG ACAAGATTGC GATGATGTGG ATGCGGGCTC
1561   TTTTAATAAG GACCTTCTTA ACCGATGGTC CGAGAGTGCC TAGGACGGGT CCATGTGCAT
1621   ACACGACGGA CCCTCGACCT CCTATTAGGA GCATGAGGGA CGACAAAATG CGAACGACGA
1681   TGCATCAAAA TGCCTGCAA CGTCGAGTTG TGGGCTACTC GCCTTCTGAT TCGCAAGCCC
1741   TCGGCGAGTC CACCTACTAG TAGCTTGGGA ATAAACAGCA AGTTTCGCCG CCAAAGGGC
1801   TGCCCGGCAT CCGATTCGAT GCCATTGTAC ATCAAGTCGG AAATGGTGCT CCGTTTCCCC

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1861 CTGGGGTGAG AGGGCGAAGG AGTAGTTCGA CCAGTCGCAG CGCACCCAGA GCCGCAGGTT
1921 TTATCGGATG TTGCTTCGAT CCGATCGTAT CCCGCGCGGC CTAGATCTTG CTAATACGAG
1981 TCGGAGAGTT ACTATTCCGG GCTTATGCGG ACGGGCCGCC GCCGTCGATG CCGGCCAAGG
2041 CTTGTTCGTGC ATGATAGATG CTGCCGTCGG CCCAAGTGGC CCGTCTAAAG CCGGACCCCT
2101 TTCCCCGAG TCTCTCCCCG ATCCCGCACG GGGCCGTCAC TTTCGCTGCC CTCGCTCCTT
2161 GTCATAACCT ACCTATATTC TCATCCCGGC AAATGCTGCG GGATAGCCTC ACCTACAGCC
2221 ACACGTCGCC CACCATGTCT CCTCAGATCG CCAATCGCTT CGAGGCTTCG CTAGATGCCC
2281 AAGAĈATAGC CAGAAATATCG CTCTTCACAC TGGAATCTGG CGTCATCCTT CGCGATGTAC
2341 CCGTGGCATA CAAATCGTGG GGTCGCATGA ATGTCTCAAG GGATAACTGC GTCATCGTCT
2401 GCCACACCTT GACGAGCAGC GCCCATGTCA CCTCGTGGTG GCCCACACTG TTTGGCCAAG
2461 GCAGGGCTTT CGATACCTCT CGCTACTTCA TCATCTGCCT AAATTATCTC GGGAGCCCCT
2521 TTGGGAGTGC TGGACCATGT TCACCGGACC CCGATGCAGA AGGCCAGCGC CCGTACGGGG
2581 CCAAGTTTCC TCGCACGACG ATTCGAGATG ATGTTTCGGTA GGTAAGCGCA CCGATCCAGC
2641 TTGTCTCAAT ATCGAGTGGT CAGGACAATC CAGGCTAAGC TTTCCGTGTC CAAAAGTATT
2701 CATCGCCAGG TGCTCGACAG GTTAGGCGTC AGGCAAATTG CTGCCGTAGT CGGCGCATCC
2761 ATGGGTGGAA TGCACACTCT GGAATGGGCC TTCTTTGGTC CCGAGTACGT GCGAAAGATT
2821 GTGCCCATCG CGACATCATG CCGTCAGAGC GGCTGGTGCG CAGCTTGGTT CGAGACACAG
2881 AGGCAGTGCA TCTATGATGA CCCCAGTAC CTGGACGGGG AGTACGACGT AGACGACCAG
2941 CCTGTCCGGG GGCTCGAAAC AGCGCGCAAG ATTGCGAATC TCACGTACAA GAGCAAACCT
3001 GCGATGGACG AGCGCTTCCA TATGGCTCCA GGAGTCCAAG CCGGTGAGTT TATAGATGCC
3061 TTGCCGTGCG TCGATGCTCA GAGCTAATCA GACCGAACCC GCTGCTAGGC CGGAATATCA
3121 GCAGCCAGGA TGCGAAGAAG GAAATCAACG GCACAGACAG CGGCAACAGC CACCGTGCTG
3181 GCCAGCCCAT TGAAGCCGTA TCTTCCTATC TCCGGTACCA GGCCCAAGG TTTGCCGCGA
3241 GCTTCGACGC CAACTGCTAC ATCGCCATGA CACTCAAGTT CGACACCCAC GACATCAGCA
3301 GAGGCCGGGC AGGATCAATC CCGGAGGCTC TGGCAATGAT TACACAACCA GCGTTGATCA
3361 TTTGCGCCAG GTCAGACGGT CTGTACTCGT TTGACGAGCA CGTTGAGATG GGGCGCAGTA
3421 TCCCAAACAG TCGTCTTTGC GTGGTGGACA CGAATGAGGG TCATGACTTC TTTGTAATGG
3481 AAGCGGACAA GGTTAATGAT GCCGTCAGAG GATTCCCTCGA TCAGTCATTA ATGTGAGGCT
3541 ATGGAGGTGT CAGCCTGCCG GTGCGCGTAC TTGCCAGGGT GATCGATGTA CTCTCAGATA
3601 GTCTCCATGT GAGTATGGAT TTCGCTGTTT CCGCTCGGAT ATAGGCACTC TCAGGCCATC
3661 TCGCAGTAGG TATCAGAACA GCAGCTGAGG CTTTCTCGGA AAGTAGGTTG TGTCAATAGA
3721 TTCATAAAGC GTCAAATAAA GCCCAAAGTC GCAGTAGACT CATCGCATCG CAAGTCTCAG
3781 AGGGTCGACT CGGCAGATTC GAGGCATTGT AGCACATTGT CGAGGCATTG AGGCGGAGAC
3841 TTGACCCATC CAACTCGGCC AGAGGCAGCA GGCAAAGCAT CTCAGCGTAG GCTCCATGCA
3901 AAACATGCGT GGCTCAACTC AGCAAGCTCA TTGCCAACGA GGTCAAAGAA AATAGAAGGT
3961 AGCGGAGGCA GGCGGGTATC GTAGTAACAC CGTCCACATA ACACGGGCTC AGCGGAGCAA
4021 CGTAGTACCT ACTCGTATAG AGGCACCGCG TCAGGAGAGG TATCAGAACC CTCATGATTC
4081 TATCGCCATG CTGCTGCGAA CACTAACAAA TGATAAACAA GGGCCCATGC TGTGTGATGA
4141 TGATTCAAGC AGGTTGTCGT GGTCCAGGTT TGGTGCCCGA GCGCCGCACA GCTGAAGATG
4201 ACGCGTCTCG CTGTCGCGCC TTCCACGACC CAGAAGTTGA TGTGCAGAAT GGGCAGTGAG
4261 TGAACCTGGG CGGGAGTGAT GGAAGGTGCC TACCCTGTAC AACCAACTAC GTCGGTACTC

4321 GTAGGAGCAA TAGCGATGAA GCGTCGGGAG AGAAGTGTGA ATTACTCTGG TACCTGGTAC
4381 TTGATGCAAC ATAGCACATT TCACCCATCA AAGCTAGGTC CCGCGGCCTG GGAGTGGAAT
4441 GGTGAAAGAC ACCGAGGCAA ATGCGGCATG AATGAGGAAG CACGGACGAG TCGTG GTTTC
4501 ACAAGAGACA CTCTGACCGA CCACAAGATT CGGCAGTACA GTCACAGCAT CACCATCGGC
4561 AGTCAGACAT GATTGAGAGC CAGGTCTTCG GCAGAGGGAA TTAGATACAC CTCGGCACCG
4621 GCG